



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,703	06/29/2001	Reizo Maeda	010829	4945

38834 7590 11/18/2005

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER

ALEJANDRO, RAYMOND

ART UNIT PAPER NUMBER

1745

DATE MAILED: 11/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/893,703

Applicant(s)

MAEDA ET AL.

Examiner

Raymond Alejandro

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/28/05 has been entered.

The following office submission is presented in response to the amendment entered with the filing of the foregoing RCE. The applicants have overcome most of the 35 USC 112 rejection; and the 35 USC 102 rejection and the 35 USC 103 rejection. Refer to the abovementioned amendment for substance of applicant's rebuttal arguments. However, the present claims are again rejected over a newly discovered reference as put forth infra and for the reasons of record.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-2, 4-5 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 1 recites the limitation "a polymeric material" in line 5. There is insufficient antecedent basis for this limitation in the claim. *It is noted that claim 1 contains earlier recitation of this limitation. For example, "a polymeric material [of the binding agent]" and "an*

Art Unit: 1745

aqueous polymeric material". It is suggested to amend the claim to read "the aqueous polymeric material", if applicant is intending so, to better reflect the scope of the present claims. Although such a recitation is followed by "in said coating layer", it is suggested to better clarify what specific polymeric material is ultimately intended.

4. Claim 1 recites the limitation "the polymeric material" in line 7. There is insufficient antecedent basis for this limitation in the claim. *It is noted that claim 1 contains earlier recitation of this limitation. For example, "a polymeric material [of the binding agent]" and "an aqueous polymeric material". It is suggested to amend the claim to read "the aqueous polymeric material", if applicant is intending so, to better reflect the scope of the present claims. Although such a recitation is followed by "in said coating layer", it is suggested to better clarify what specific polymeric material is ultimately intended.*
5. Claim 2 is indefinite as it is incomplete (text body thereof is missing) and does not further limit base claim 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

Art Unit: 1745

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-2, 4-5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuasa et al 5250369 in view of Magnusson et al 4232100.

The instant application is directed to a hydrogen absorbing alloy electrode wherein the disclosed inventive concept comprises the specific polymeric material coated thereon. Other limitations include the specific polymeric materials and the specific weight percent.

With respect to claim 1:

Yuasa et al disclose that a hydrogen absorbing alloy negative electrode for use in storage type battery is prepared through a process in which an alkali-resisting organic high molecule such as polyethylene, fluorocarbon polymer or the like, is added as a binding agent to a pulverized hydrogen absorbing alloy, and the resulting mixture is pressed onto or filled into an electric alloy conductive collector such as punching metal or a foam metal (Col 1, lines 37-45/Col 3, lines 50-67). Other alkali-resisting resins (binding agent) such as carboxymethylcellulose and methylcellulose or poly(vinyl alcohol) can also be employed (Col 14, lines 6-10). *It is noted that the binding agent assists to hold fast or adhere the electrode material to conductive collector.*

Examiner's note: *it is noted that applicant has argued now that the transitional phrase "composed of" is to be construed as closed-ended phrase and therefore does exclude other components. To be precise, applicant has contended that the foregoing phrase is meant to be*

Art Unit: 1745

interpreted in the same manner as either "consisting of" or "consisting essentially of". (See amendment of 05/24/05 at page 4, last two paragraphs).

Example 1 shows the use of an aqueous solution of poly(vinyl alcohol) (the binding agent) mixed into the hydrogen absorbing alloy powder to form paste; and a foamed nickel porous matrix (the current collector) which is filled with the prepared paste and pressed (EXAMPLE 1/COL 4, lines 1-10). **Example 7** further shows the hydrogen absorbing alloy negative electrode is coated with polyethylene (the coating polymeric material) (EXAMPLE 7/COL 4, lines 65-68). *Thus, in this case, the hydrogen absorbing alloy electrode consist of the hydrogen absorbing powder and a binding agent composed of a polymeric material (polyvinyl alcohol) adhered to the current collector, and being coated with polyethylene. Hence, the polymeric material in the coating layer is different from the polymeric material in the binding agent.*

With respect to claim 2:

It is disclosed that polyethylene used may be replaced by one of thermoplastic resins such as ABS resin (COL 14, lines 26-30). *It is noted that ABS resin stands for thermoplastic resins made of acrylonitrile-butadiene-styrene copolymer. It is also noted that styrene is an aromatic olefin and butadiene is a conjugated diene.*

With respect to claims 4-5:

It is disclosed that the hydrogen absorbing alloy negative electrode contains the resin by an amount of 1.5 wt % of the electrode (COL 5, lines 60-63).

With respect to claim 9:

It is disclosed that the hydrogen absorbing alloy electrode is for use in an alkaline storage battery (ABSTRACT/ COL 1, lines 11-14).

Yuasa et al disclose a hydrogen absorbing alloy electrode according to the foregoing aspects. However, Yuasa et al does not expressly disclose the specific aqueous polymeric material applied as the coating layer.

Magnusson et al disclose an electrode plate (TITLE) having applied a coating of water insoluble plastic materials on the surface or surfaces of the electrode plate. Examples of suitable materials are copolymers of styrene and acrylic acid ester (ABSTRACT/ CLAIMS 1-2) as well as acrylates, vinylacetate and vinylchloride (ABSTRACT). *It is noted that styrene is an aromatic olefin which is aqueous.*

With these specific teachings, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the specific aqueous polymeric material coating layer of Magnusson et al on the electrode of Yuasa et al because Magnusson et al makes known that such specific polymeric layer prevents dust formation on the electrode surface. Thus, it does fix the dust creation on the surfaces of the electrodes during the manufacturing process, thereby to satisfy requirements in regard of factory hygiene and the protection of the inner environment. In this instance, Magnusson et al's motivation to apply the copolymer coating layer may be extensive to the formation of hydrogen absorbing alloy electrodes because they are also subjected to regulated manufacturing processes and environmentally-friendly requirements.

Art Unit: 1745

Response to Arguments

9. Applicant's arguments with respect to claims 1-2, 4-5 and 9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Raymond Alejandro
Primary Examiner
Art Unit 1745

RAYMOND ALEJANDRO
PRIMARY EXAMINER